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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/801,456	03/16/2004	Gary R. Lauterbach	03226/358001; SUN030251	3249

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EXAMINER

JAKOVAC, RYAN J

ART UNIT	PAPER NUMBER
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2145

NOTIFICATION DATE	DELIVERY MODE
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09/04/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/801,456	Applicant(s) LAUTERBACH, GARY R.	
	Examiner RYAN J. JAKOVAC	Art Unit 2145	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 June 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-7,10,15 and 26-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-7,10,15 and 26-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 3-7, 10, 15, and 26-34 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. 2004/0049573 to Olmstead et al (hereinafter Olmstead).

Regarding claim 1, Olmstead teaches a system comprising: a plurality of nodes located in a single multiprocessor system (Olmstead, Fig. 3-4.); and a mesh interconnect connecting the plurality of nodes using the first router and the second router (Olmstead, Fig. 4, Network connecting nodes 1 and 2.), wherein a first node selected from the plurality of nodes comprises a first router for interfacing with the plurality of nodes using the mesh interconnect and a first replicated service executing on a first operating system, wherein a second node selected from the plurality of nodes comprises a second router for interfacing with the plurality of nodes using the mesh interconnect and a second replicated service executing on a second operating system (Olmstead, Paragraph [0011-0014], Nodes communicate using a distributed messaging service

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(i.e. route data messages). Paragraph [0032], Nodes broadcast their presence and listen for other nodes (i.e. route data messages). Paragraph [0001], Duplicated data allows an application on node B to overtake the functions of an application on Node A (i.e. the system provides replicated services). Paragraph [0002], Node failures are detected and the service provided is replaced by a backup node (i.e. replicated service). Paragraph [0021], Message routing and delivery function across nodes utilizing different operating systems.); and wherein the first node is configured to: generate a request to replace the first replicated service when the first replicated service is unavailable (Olmstead, [0009-0016], the nodes use short data messages which identify the node as available or unavailable. See also, [0022], heartbeat messages indicate whether a node is available.), send the request to the plurality of nodes using the mesh interconnect, receive a response from the second node indicating that the second replicated service is available (Olmsted, [0016], the messaging service provides communications between nodes to notify other nodes about changes and receive state change notifications. See also, [0022].), and route a request for the first replicated service to the second node based on the response (Olmstead, Paragraph [0002], Node failures are detected and the service provided is replaced by a backup node (i.e. replicated service).).

Regarding claim 3, Olmstead teaches the system of claim 1, wherein the second node comprises a cache indicating that the second replicated service is available (Olmstead, [0016], nodes save a checkpoint of their state.), and wherein the second node is configured to generate the response based on the cache. (Olmstead, [0016-0017], Nodes use the messaging service which encompasses a request/reply model and point-to-point communication. Messages are sent

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to interested applications. Paragraph [0002], Node failures are detected and the service provided is replaced by a backup node .See also, paragraph [0032], Nodes broadcast lists of their policies. their name, and their class. The nodes stores information (i.e. in a cache) about themselves.).

Regarding claim 4, Olmstead teaches the system of claim 1, wherein the first router comprises a lightweight communications protocol (Olmstead, Paragraph [0011-0014], Nodes communicate using a distributed messaging service. Paragraph [0022], Nodes communicate using UDP.).

Regarding claim 5, Olmstead teaches the system of claim 1, wherein the first router comprises a heavy-weight communications protocol (Olmstead, [0017], TCP/IP protocol.).

Regarding claim 6, Olmstead teaches the system of claim 1, wherein the mesh interconnect provides at least two connection paths from the first node to the second node (Olmstead, Paragraph [0021], Nodes directly communicate. Paragraph [0032-0033], Nodes send a broadcast message to all nodes. Messages are also passed from one node to the other, see paragraph [0013].).

Regarding claim 7, Olmstead teaches the system of claim 1, wherein the first replicated service is a different application than the second replicated service (Olmstead, Paragraph [0016], Various applications are running on the nodes.).

Regarding claim 10, Olmstead teaches the system of claim 9, wherein the first node is configured to send the first request using at least one selected from a group consisting of a broadcast message and a multicast message (Abstract, The distributed messaging system allows the nodes to communicate with one another and monitor each other. The messaging system uses broadcast and multicast messages, see paragraphs [0011-0014], [0017], and [0022]. Paragraph [0002], Node failures are detected (i.e. searched for) and the service provided is replaced by a backup node (i.e. replicated service).).

Regarding claim 15, Olmstead teaches the system of claim 1, wherein the first router and the second router implement a master-less routing policy (Olmstead, Paragraph [0011-0014], Nodes communicate using a distributed messaging service. Paragraph [0032], Nodes broadcast messages to all the other nodes.).

Regarding claim 26, Olmstead teaches the system of claim 3, wherein the cache comprises a table having entries for each replicated service provided by the second node (Olmstead, [0032], Nodes broadcast lists of their policies. their name, and their class. The node stores information (i.e. in a cache) about itself. Paragraph [0016], Nodes store the state of applications.).

Regarding claims 27, 28, Olmstead teaches the system of claim 1, wherein the first replicated service is unavailable when the first replicated service is busy, and when the first replicated service has failed (Olmstead, see node failure in at least [0002].).

Regarding claim 29, Olmstead teaches the system of claim 28, wherein the first replicated service has failed due to a virus, and wherein the second replicated service is not vulnerable to the virus (Olmstead, Paragraph [0021], Message routing and delivery function across nodes utilizing different operating systems. See also node failure in at least [0002].).

Regarding claim 30, Olmstead teaches the system of claim 28, wherein the first replicated service has failed due to a security hole being exploited by a hacker, and wherein the second replicated service does not include the security hole (Olmstead, Paragraph [0021], Message routing and delivery function across nodes utilizing different operating systems. See also node failure in at least [0002].).

Regarding claim 31, Olmstead teaches the system of claim 1, wherein the first operating system is different than the second operating system (Olmstead, Paragraph [0021], Message routing and delivery function across nodes utilizing different operating systems.).

Regarding claim 32, Olmstead teaches the system of claim 1, wherein the plurality of nodes comprises a first subset of nodes and a second subset of nodes, wherein the first node is in the first subset and the second node is in the second subset (Olmstead, fig. 4.), and wherein the first node is configured to send the request to the second subnet only when the first subnet does not provide a replacement for the first replicated service (Olmstead, Paragraph [0002], Node failures are detected and the service provided is replaced by a backup node (i.e. replicated service).).

Regarding claim 33, Olmstead teaches a method for managing replicated services, comprising: generating, by a first node selected from a plurality of nodes, a request to replace a first replicated service of the first node when the first replicated service is unavailable (Olmstead, [0009-0016], the nodes use short data messages which identify the node as available or unavailable. See also, [0022], heartbeat messages indicate whether a node is available.), wherein the plurality of nodes is located in a single multiprocessor system and connected using a mesh interconnect (Olmstead, fig. 4.); sending, by the first node, the request to the plurality of nodes using the mesh interconnect (Olmstead, [0009-0016], the nodes use short data messages which identify the node as available or unavailable. See also, [0022], heartbeat messages indicate whether a node is available.); receiving, from a second node selected from the plurality of nodes, a response indicating that a second replicated service of the second node is available (Olmstead, [0016], the messaging service provides communications between nodes to notify other nodes about changes and receive state change notifications. See also, [0022].); and routing, by the first node, a request for the first replicated service to the second node based on the response (Olmstead, Paragraph [0002], Node failures are detected and the service provided is replaced by a backup node (i.e. replicated service)).

Regarding claim 34, Olmstead teaches the method of claim 33, wherein the plurality of nodes comprises a first subset of nodes and a second subset of nodes, wherein the first node is in the first subset and the second node is in the second subset (Olmstead, fig. 4.), and where sending the request to the plurality of nodes comprises: sending the request to the first subset of nodes (Olmstead, [0009-0016], the nodes use short data messages which identify the node as

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available or unavailable. See also, [0022], heartbeat messages indicate whether a node is available.); and sending the request to the second subset of nodes when the first subset of nodes does not provide a replacement for the first replicated service (Olmstead, Paragraph [0002], Node failures are detected and the service provided is replaced by a backup node (i.e. replicated service).).

Response to Arguments

3. Applicant's arguments filed 06/24/2008 have been fully considered but they are not persuasive. Applicant argues that Olmstead does not teach a node configured to "generate a request to replace the first replicated service when the first replicated service is unavailable." The examiner respectfully disagrees. Olmstead, in paragraphs, [0009-0016], and further in [0022], discloses that the nodes use short data messages which identify the node as available or unavailable. Applicant argues that Olmstead does not teach a node configured to "route a request for the first replicated service to the second node based on the response", however Olmstead, in paragraph [0016], discloses that the messaging service provides communications between nodes to notify other nodes about changes and receive state change notifications. In paragraph [0002], Olmstead further discloses that node failures are detected and the service provided is replaced by a backup node (i.e. a node responding to "request for the first replicated service").

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RYAN J. JAKOVAC whose telephone number is (571)270-5003. The examiner can normally be reached on Monday through Friday, 7:30 am to 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason D. Cardone can be reached on (571) 272-3933. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/RJ/

/Jason D Cardone/
Supervisory Patent Examiner, Art Unit 2145